

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 3/5/2010.
2. Claims 19-20 have been canceled.

Response to Arguments

3. Applicant's arguments filed 3/5/2010 have been fully considered but they are not persuasive.
4. In response to the Applicant's argument regarding claims 1 and 10 that "Edge does not disclose employing the positional data of the mobile station to determine a timing advance value" (Pages 6-7), the Examiner respectfully disagrees.

Edge teaches the "propagation time can be obtained from the timing advance value" and that the "timing advance value is twice the propagation time between the mobile station 116 and its serving base station 102, it can also be used to obtain the propagation time". (Edge Col. 6 lines 20-28) However, Edge's definition of timing advance differs from the Applicant's definition of timing advance in that the Applicant's states the timing advance "is required so that appropriate synchronization to the new cell can be achieved so that the communication signal sent to that cell can be set at an appropriate time so as to reach the target Basestation System (BSS) at the appropriate time slot". (Page 2 lines 2-5) In other words, the Applicant's timing advance value corresponds to Edge's propagation time (*i.e.* P1 & P2).

Art Unit: 2617

Further, Edge teaches the propagation delays (*note*: “time” is used interchangeably with “delay” in Edge’s specification see Col. 11 lines 8-11) can be determined from the GPS or A-GPS position of the mobile unit to the known locations of the base stations. (Edge Col. 10 lines 59-67 and Col. 11 lines 21-52) Therefore, Edge teaches using the positional data to find a more accurate value of the propagation time/delay, which corresponds to the Applicant’s timing advance value.

5. In response to the Applicant’s argument regarding claim 8 that “the timing advance value is included within the handover command as received by the device, is simply incorrect” (Page 7), the Examiner respectfully disagrees.

Vialen teaches the “Physical Information 408” message is a part of the intersystem handover message sequence (Page 2 [0014-0015]), includes the GSM Timing Advance information (Page 3 [0015]), which the Examiner views as being a handover command because “Reception of a Physical Information message causes the terminal to stop sending access bursts.” (Page 3 [0015])

Further, for future reference, the Examiner would point to the Abstract and Summary sections of Dupuy (US-5,711,003).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vialen et al. (US-2002/0066011 hereinafter, Vialen) in view of Edge (US-7,155,244).

Regarding claim 1, Vialen teaches a method of handover (Page 2 [0015] “When an inter-system handover from UMTS to GSM is triggered”) from a first radio access technology (Page 2 [0015] “UMTS”) to a second radio access technology (Page 2 [0015] “GSM”) for a mobile radio communications device (Fig. 1 [UE1 & UE2]) within a mobile radio communications network (Fig. 1) and including determining a timing advance value associated with the second radio access technology. (Page 2 [0015] “GSM Timing Advance Information”)

Vialen differs from the claimed invention by not explicitly reciting employing positional data of the device within the network for determining the said timing advance value.

In analogous art, Edge teaches a method for precise timing within wireless communication networks (Abstract) that includes UMTS (Col. 8 lines 29-37) and GSM (Col. 8 lines 19-29) system with the ability to employ positional data of the device within the network for determining a timing advance value. (Col. 10 lines 59-67, Col. 11 lines 21-52 and Col. 6 line 59 through Col. 7 line 10) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to be motivated to implement the method of handover of Vialen after modifying it to incorporate the ability to use positional data to determine a timing advance value of Edge since absolute timing differences are critical for correctly recognizing at the mobile device, the delays in receiving signals from neighboring base stations caused by the propagation delay,

Art Unit: 2617

thereby synchronizing with the base station. (Edge Col. 3 line 66 through Col. 4 line 7)
Further, utilizing position data for deriving the absolute timing difference provides a more accurate value than can otherwise be obtained, thereby reducing errors. (Edge Col. 11 lines 1-53)

Regarding claim 2, Vialen in view of Edge teaches wherein the timing advance value is also determined on the basis of the location of the base station system associated with the second radio access technology. (Edge Col. 10 lines 59-67)

Regarding claim 3, Vialen in view of Edge teaches providing the device with the timing advance value prior to handoff (Vialen Pages 2-3 [0015] “The terminal may receive a Physical Information 408 message as a response to the Handover Access messages. The Physical Information message contains only the GSM Timing Advance information.”), which is determined as a result the positional data of the device. (Edge Col. 10 lines 59-67)

Regarding claim 4, Vialen in view of Edge teaches wherein the timing advance value is determined within the network. (Vialen Pages 2-3 [0015] and Edge Col. 10 lines 59-67)

Regarding claim 5, Vialen in view of Edge teaches wherein the positional data is provided within a service radio network controller of the network. (Edge Col. 10 lines 55-59)

Regarding claim 6, Vialen in view of Edge teaches wherein the positional data is delivered by way of a core network arrangement to the base station system. (Vialen

Fig. 4 [404-406] and Pages 2-3 [0015] “Intersystem Handover Command” can include the required Timing Advance information, received from the MSC)

Regarding claim 7, Vialen in view of Edge teaches wherein the timing advance value is signaled to the device from the base station system. (Vialen Pages 2-3 [0015] “The Physical Information message contains only the GSM Timing Advance information.” and Fig. 4)

Regarding claim 8, Vialen in view of Edge teaches wherein the timing advance value is included within the handover command as received by the device. (Vialen Pages 2-3 [0015] and Fig. 4)

Regarding claim 9, Vialen in view of Edge teaches wherein the timing advance value is determined within the device. (Edge Col. 8 lines 54-59)

Regarding claim 10, Vialen teaches a mobile communications system (Fig. 1) arranged for operation with a first radio access technology (Page 2 [0015] “UMTS”) and a second radio access technology (Page 2 [0015] “GSM”) and including means for initiating the handover of a mobile radio communications device (Fig. 1 [UE1 & UE2]) from the first radio access technology to the second radio access technology (Page 2 [0015] “When an inter-system handover from UMTS to GSM is triggered”), and including determining a timing advance value associated with the second radio access technology. (Page 2 [0015] “GSM Timing Advance Information”)

Vialen differs from the claimed invention by not explicitly reciting employing positional data of the device within the network for determining the said timing advance value.

Art Unit: 2617

In analogous art, Edge teaches a method for precise timing within wireless communication networks (Abstract) that includes UMTS (Col. 8 lines 29-37) and GSM (Col. 8 lines 19-29) system with the ability to employ positional data of the device within the network for determining a timing advance value. (Col. 10 lines 59-67, Col. 11 lines 21-52 and Col. 6 line 59 through Col. 7 line 10) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to be motivated to implement the method of handover of Vialen after modifying it to incorporate the ability to use positional data to determine a timing advance value of Edge since absolute timing differences are critical for correctly recognizing at the mobile device, the delays in receiving signals from neighboring base stations caused by the propagation delay, thereby synchronizing with the base station. (Edge Col. 3 line 66 through Col. 4 line 7) Further, utilizing position data for deriving the absolute timing difference provides a more accurate value than can otherwise be obtained, thereby reducing errors. (Edge Col. 11 lines 1-53)

Regarding claim 11, the limitations of claim 11 are rejected as being the same reasons set forth above in claim 2.

Regarding claim 12, the limitations of claim 12 are rejected as being the same reasons set forth above in claim 3.

Regarding claim 13, the limitations of claim 13 are rejected as being the same reasons set forth above in claim 4.

Regarding claim 14, the limitations of claim 14 are rejected as being the same reasons set forth above in claim 5.

Regarding claim 15, the limitations of claim 15 are rejected as being the same reasons set forth above in claim 6.

Regarding claim 16, the limitations of claim 16 are rejected as being the same reasons set forth above in claim 7.

Regarding claim 17, the limitations of claim 17 are rejected as being the same reasons set forth above in claim 8.

Regarding claim 18, the limitations of claim 18 are rejected as being the same reasons set forth above in claim 9.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US-5,711,003 to Dupuy regarding transmitting the timing advance value in the handover command message

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2617

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW SAMS whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2617

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Application/Control Number: 10/597,647

Page 10

Art Unit: 2617

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